REMARKS

I. Status Summary

With this Amendment, claims 1-9 are pending. Claims 3 and 6 have been amended into independent claims. Therefore, Applicants respectfully submit that the amendments to claims 3 and 6 do not raise issues of new matter and do not require further consideration or search by the Examiner. Further, Applicants respectfully submit that the amendment and the remarks below place claims 1 -9 in condition for allowance or in better condition for appeal, as discussed in greater detail below. Reconsideration of the application and entry of the amendment is respectfully requested based on the following remarks.

II. Telephone Conference Summary

Applicants conducted a telephonic conference with Examiner Thomas H. Stevens on August 25, 2006. Participating in the telephonic conference with Examiner Stevens was applicants' attorney, David M. Sigmon. Applicants sincerely appreciate Examiner Stevens' time and consideration in participating in the telephonic conference.

In the telephonic conference, the rejections of the claims were discussed. In particular, the previous allowability of claim 3 depending from claim 2 and claim 6 depending from claim 1 as indicated in the advisory action dated February 7, 2006 was discussed. Examiner Stevens informed applicants that the final rejection should have indicated claims 3 and 6 as allowable if rewritten in independent form including all intervening claims and if the 35 U.S.C. § 112, second paragraph, rejection of claim

3 is addressed. Examiner Stevens further recommended that applicants file this after-final amendment. Applicants respectfully submit that the amendment and remarks presented herein are believed to be consistent with and also summarize the telephonic conference.

II. Claim Rejections Under 35 U.S.C. § 112

Claim 3 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Applicants respectfully submit that claim 3 has been amended to address the issue regarding insufficient antecedent basis for the element of the adjustable modeling filter by amending the claim to clarify that the adjustable modeling filter is the digital filter that is being adjusted.

III. Claim Rejections Under 35 U.S.C. § 102(b)

Claims 1-5, and 8-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by "assessment of UHV power amplifier linearization by a measurement in simulation" (IEEE 1999) by Wilkinson et al. (hereinafter "Wilkinson").

Applicants note that it is well settled that for a cited reference to qualify as prior art under 35 U.S.C. §102, each element of the claimed subject matter must be disclosed within the reference. See Hybritec, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 231 U.S.P.Q. 81 (Fed. Cir. 1986) (stating that "[[i]]It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention"). Accordingly, applicants respectfully submit that Wilkinson does not

disclose every element of claims 1-5, 8 and 9 and therefore cannot anticipate these claims under 35 U.S.C. §102(b).

A. Summary of the Rejected Independent Claims

Claim 1 recites a simulation method for determining non-linear signal distortion and analog circuit, which is to be tested, for processing discrete multi-tone signals (DTM). The method includes applying a discrete multi-tone signal, which has a large number of uniformly spaced carrier frequencies for data transmission in a predetermined frequency range, to the analog circuit, which is to be tested, and to a digital filter. The output signal from the analog signal which is to be tested is subtracted from the output signal of the digital filter in order to produce a different signal. The digital filter is adjusted until the different signal is at a minimum, with the adjusted digital filter forming an equivalent circuit of the analog circuit. The discrete multi-tone signal is then applied to the adjusted digital filter, with at least one carrier frequency being suppressed, for measuring the intermodulation product of the adjusted digital filter.

Claim 8 recites a test arrangement for determining non-linear signal distortion of analog circuit elements of a single processing circuit for processing of the DMT signals. A test arrangement includes a signal generator for producing a discrete monotone signal and an adjustable modeling filters which are each connected parallel with an associated analog circuit element. The signal inputs of the modeling filters and the signal inputs of the analog circuit elements are connected to the signal generator. Subtraction circuits are provided with each subtraction circuit subtracting

the output signal from a modeling filter from the output signal from the associated analog circuit elements in order to form a different signal. An adjustment circuit is provided which compares the different signals with a nominal value and adjusts the modeling filters until the different signals match the nominal value. A measurement circuit is connected to the outputs of the modeling filters for measuring the intermodulation products of the adjusted modeling filters.

B. Arguments Against the Rejection of the Claims Based on 35 U.S.C. § 102(b)

Applicants respectfully submit that Wilkinson does not anticipate independent claims 1 and 8 or the claims that depend therefrom. In particular, Wilkinson does not disclose a method or a test range for processing discrete multi-tone signals.

A discrete multi-tone signal (DMT) is a modular technique specified in the American National Standards Institute ("ANSI") T1, E1.4 Standard. DMTs use a large number, typically 256, of equally spaced subchannels, each of which can be individually modulated by QAM ("Quadrature Amplitude Modulation") of a variable number of levels.

Wilkinson discloses an assessment of UHF power amplifier linearization by measurement and simulation. Wilkinson only briefly mentions in his abstract the use of simple m ulti-tone signals. Such multi-tone signals are not discrete multi -tone signals ("DMT") as specified in the ANSI T1E1.4 standard. Wilkinson only discloses briefly the obtaining of a nonlinear model in a simulation program. It is clear in Wilkinson that the nonlinear model in Wilkinson is an analog model as evidence by equations (7) and (8). Thus, Wilkinson does not disclose a digital filter to model an

analog circuit.

Wilkinson also does not disclose obtaining the nonlinear model for the analog circuit by adjusting the nonlinear model utilizing output signals for both the analog circuit and the nonlinear model in order to obtain the nonlinear model. Wilkinson only discloses the applying of two-tone test signals to nonlinear model and the analog circuit in order to purify the accuracy of the parameters of the nonlinear model (See Wilkinson, page 62, right column 7th paragraph). Further, Wilkinson does not disclose any filter, particularly a digital filter, which is adjusted to be a model of an analog circuit by applying any signals, particularly DMT signals to the filter and the analog circuit and to adjust the filter until the difference of the filter and the analog circuit output signal is minimal.

Moreover, Wilkinson is concerned with AM/AM and AM/PM distortion. AM/AM and AM/PM is a technology significantly different from the discrete multi-tone modulation which is also called orthogonal frequency multiplex (OFDM). Consequently, the two-tone test signals of Wilkinson are not discrete multi-tone signals, with at least one carrier frequency being suppressed. Thus, Wilkinson does not disclose all the steps or elements of pending claims 1 and 8.

For at least the reasons listed above, Wilkinson does not anticipate independent claims 1 and 8 or the claims that depend therefrom. Accordingly, applicants respectively submit that the rejections of claims 1-5, 8 and 9 under 35 U.S.C. §102(b) be withdrawn.

IV. Claim Rejections Under 35 U.S.C. § 103

Claims 6 and 7 stand rejected to under 35 U.S.C. §103(a) as being unpatentable over Wilkinson in view of U.S. Patent No. 6,295,343 to Hjartarson et al. (hereinafter "Hjartarson").

To establish *prima face* case of obviousness, the Examiner must meet the following criteria. See MPEP § 2143. First, there must be some suggestion or motivation either in the reference itself or the knowledge generally available to one of ordinary skill of the art, to modify the reference. Id. Second, there must be a reasonable expectation of success. Id. Third, the prior art reference must teach or suggest all the claim elements. Id. In view of all the factual information, a determination must then be made as to whether the claimed subject matter as a whole would have been obvious at the time to that person. See MPEP § 2142. Impermissible hindsight must be avoided and a legal conclusion of obviousness must be reached on the basis from the facts gleaned from the prior art. Id.

A. Arguments against the rejections of the claims based on 35 U.S.C. §103

Hjartarson does not over come the shortcomings of Wilkinson discussed above in relation to claim 1 from which claims 6 and 7 depend. Hjartarson discloses an integrated line card for providing an analog termination for both, POTS and xDSL signals that present the appropriate impendence at xDSL frequencies for the xDSL signals and appropriate impendence at POTS frequencies for POTS signals. Hjartarson, however, does not disclose, teach, or suggest any simulation method at all and no digital filter to model an analog circuit. As a result, Hjartarson does

not disclose, teach, or suggest using a digital filter to model an analog circuit. Thus Hjartarson and Wilkinson, alone or in combination do not disclose, teach or suggest all the features of claim 1. Since claims 6 and 7 depend from claim 1, Hjartarson and Wilkinson either alone or in combination, also do not disclose, teach or suggest all the features of claims 6 and 7.

For the reasons listed above, claims 6 and 7 are not rendered obvious in view of the cited references. Applicants therefore, respectively request that the rejection of claims 6 and 7 under 35 U.S.C § 103(a) be withdrawn and the claims allowed at this time.

V. Allowable Claims

As stated, in the telephonic conference with Examiner Stevens, claims 3 and 6 were again indicated as allowable if rewritten in independent form including all intervening claims and if the 35 U.S.C. § 112, second paragraph, rejection of claim 3 is addressed. Claims 3 and 6 have been amended into independent claims. Further, the 35 U.S.C. § 112, second paragraph, rejection of claim 3 is addressed. Accordingly, applicants respectively submit that claims 3 and 6 are now in condition for allowance.

CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that claims 1-9 are now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

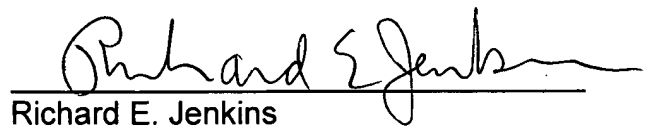
If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

DEPOSIT ACCOUNT

Although no fee is believed to be due, the Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. **50-0426**.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: September 1, 2006 By: 

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